

MOVRITZ

"THE FLU"

A BRIEF WORLD HISTORY

OF

INFLUENZA



INDEXED *list*

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OF
INFLUENZA

IN

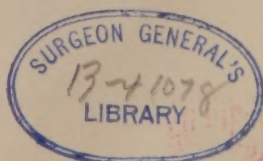
U. S. AMERICA
EUROPE
HAWAII

BY

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U. S. AMERICA

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PREFACE

This Booklet has been written and compiled for the use of any student or layman who seeks concise and clear information on the history of Influenza. Brief and salient facts are set forth relating to "Flu" epidemics and pandemics: other collateral features have also been discussed, connected with or bearing upon this subject.

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Author and Compiler.

Honolulu, Hawaii, U. S. A., 1921.

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CHAPTER I.

What is Influenza? Discovery of the Bacillus. Alleged causes. Names given to the disease and their translation. Explanation of medical words.

INFLUENZA.

An infectious and contagious disease; most startling in its methods of sudden appearance and disappearance; its widely diffused and rapid spread is seen in no other disease; it has excited universal and general attention; physicians and scientists have been stimulated and fascinated whilst pursuing their investigations and studying the disease in its various phases, to wit: spread, incubation, differences of type, and the exact micro-organism which invades the system of man, and if there is more than one that enters together or separately.

Discovery of the Bacillus. In the year 1892, Dr. Richard Pfeiffer, of the University of Breslau, Silesia, Prussia discovered the specific microbe of Influenza, a Bacillus, which is generally accepted as being the cause of the disease; however, there are some physicians who dissent.

It was found to be present in the lungs, bronchial mucous membrane, sputum and nasal discharge. It is one of the smallest of the known bacilli; measures about one micron long and a one-half micron in breadth. A micron is equal to $\frac{1}{25,000}$ of an inch. The bacillus is found singly and in pairs, is non-motile. Domestic animals are not subject to the Flu, but monkeys and rabbits can be infected.

Alleged Causes of the "Flu." It has been attributed to numerous and varied agencies in the past. Philosophers, physicians and the people believed the disease to be due to supernatural phenomena.

Some of the causes given were in the main fanciful, freakish and imaginary, the delusions of minds filled with wonder or fear, and illusions of the senses, such as:

Comets, earthquakes, volcanoes and cosmic dust caused by the rising and setting of the sun.

A.D. 1411 Diabolical pollution of the air with pestilential vapors arising from the air and ground; these caused bleedings from the mouth, nose and bowels, and in women caused abortions.

" 1580 Bad conduct of Sirius the dog star, caused by anger.

" 1658 Blast from the stars.

" 1742 Malign influence (Influenza) of the stars, etc., etc.

NAMES GIVEN TO INFLUENZA: TRANSLATED.

Date of Epidemic. A.D.	Name.	Language.
827	Se Wulf	Saxon
827	Heafd Flowan	Anglo-Saxon
876	Italiae Febris	Latin
1411	Le Tac	French
1414	Le Horion	French
1427	Ladendo	Italian
1510	Cephale Catarrhale	French
1510	Coqueluche	French
1510	Coccoluche	Anglo-French
1742	Influente	Italian
1742	La Grippe	French
1781	Catarro Russo	Italian

Se Wulf. Se (the), Wulf, wolf. Probably so named from the cough of the Flu victim resembling the growl of the wolf; or from the sudden seizure by the outlaw wolf of its victim.

Heafd Flowan. Heafd, head; Flowan, to flow; hence Head Catarrh.

Italiae Febris. Fever of Italy.

Le Tac. The Rot; slow recovery, persistent cough, like T.B.

Le Horion. The thump or blow; suddenness of the attack of the Flu.

Ladendo. This word is puzzling; it is slang Latin or Italian or is misspelt. If Latendo, it means, the Hidden One, the Flu. If it is Ludendo, then it may mean, the Tickler or Laughter, the tickling cough spasms, resembling a person laughing. In the Epidemic of 1427, the manner of greeting was "As-tu eu Ladendo?" Have you had Ladendo?

Cephale Catarrhale. Head Catarrh.

Coqueluche; from coq, the male bird; hence crested like the comb of a cock. Luche means a cap or hood. The wearing of a cap, cocked or crest shaped, by the victim of the Flu, gave the name to the disease, hence, "Coqueluche."

Coccoluche. Is the above word Coqueluche, Anglicised. Coc or cocc is Anglo-Saxon for the French word, coq.

La Grippe. La, the, and the verb, agripper, to grip or cling to or choke.

Influenza. The world-wide designation by which the disease is known today; is of Italian origin from the word *Influente*; a malign Influence or *Influenza* from the stars being the cause. Latin: in, into or upon, and fluo to flow; hence a flowing in, into or upon; caused by an unseen power or Influence or *Influenza*, like the profuse nasal discharge, flowing from an invisible source.

THE PERFECT LANGUAGE.

Sanskrit literally means "the perfect language," from san or sam, with, and kṛta, perfected or done. It is a mother language, the ancient language of the Hindus, and called the Infallible language, because it is based on infallible rules; and also the language of the Gods.

The language contains the root Plu; to flow, to rain, to swim. Now, whether it is the Anglo-Saxon word, flowan to flow; or the Latin words pluo, to rain, and fluo to flow; or the German fliesen, to flow; or the Greek word phleo, to flow; and the Italian word, influente, influo, and hence Influenza; every one of these words is drafted from this Sanskrit root Plu; from 1800 B.C. downwards is the time that the Sanskrit was in use.

Plu or Flu is an ancient disease, so the Author of this Booklet believes, and in confirmation thereof, cites the views of native Indian Sanskrit scholars who have found the records of a pestilence, resembling the Flu away back in the mists of antiquity, 1200 B. C.

This disease repeatedly ravaged the then centers of dense population, Central Asia, Mesopotamia and Southern Asia, in the reigns of Tiglath Pileser (1120-00) and Nebuchadnezzar (605-562). The sickness affected the citizens of ancient Babylon; and the described features of the epidemics were such as we have today in those of Influenza, cough, headache, fever, pain in the eyeballs, and copious tears and water gushing from the nose, stained with blood or all blood. The Sanskrit historians gave the name "Plu" to the disease, probably from the flowing nasal discharge.

It is an uncanny coincidence, that our Hawaiian people, who are descended from the Indian branch of the Indo-European family of nations, use the softer letter p in pronouncing the shortened form of the word Influenza, Plu for Flu.

Unknowingly, the Hawaiians are using probably the word that their ancestors used 2,500 years ago in India on the banks of the river Sindhu or Indus.

EXPLANATION OF MEDICAL WORDS.

Before entering upon a description of the epidemics of Influenza, which have ravaged the various countries of the world, it is essential to explain the meanings of certain medical words used in connection with epidemic, contagious and infectious diseases.

The definitions which are given, if not exactly orthodox, are fairly in accord with modern views, and are clear, simple, and should be easily understood by any ordinary reader.

Infectious. A disease acquired without any direct contact with a sick person; the infection may be carried by a person in apparent good health, or by any intermediary substance, or by the entrance of a non-immune person into a room, house, or any place of human residence, or occupied as such; where there has been recently any infectious disease, such as Flu, Scarlet Fever, Measles or Small-pox, etc., etc.

Infection. The entrance into the system or body of living disease producing germs, such as by

(a) Droplet infection; bacteria infected minute particles or droplets, ejected by sneezing, coughing, spitting and talking.

(b) Aerial dust particles coated with bacteria.

(c) Mixed, more than one bacterium or organism present in the system, they may enter together or one precede the other.

Contagious. A disease acquired from a direct contact with the sick.

Contagion. The spreading of a disease by direct or indirect contact.

(a) Direct contagion.

(b) Indirect contagion or mediate, as by a "carrier," who is apparently in good health, but nevertheless carries disease and can convey it to other non-immune persons.

(c) By means of Fomites (hereafter defined).

Contagium. The virus or poison which transmits disease, such as the vaccine used in anti-smallpox vaccination, which in former years was obtained from the vacca or cow, now the calf is the source of supply.

Fomites. Any non-animate agents or substances that transmit contagion such as blankets, towels, handkerchiefs, or any articles which have been contaminated by the secretions or excretions of the sick.

Endemic. A disease which is permanently present in a people or district, it may become epidemic.

Epidemic. A rapidly and widely spreading disease attacking many people.

Pandemic. A wide and rapidly spreading Epidemic affecting many people and all countries.

Sporadic. A disease occurring here and there, not attacking many people, not widely spread nor epidemic.

Incubation. The period between the implanting or acquiring of a communicable disease and its development; and visible by external signs or other recognisable manifestations.

CHAPTER II.

INFLUENZA EPIDEMICS IN U. S. AMERICA.

- A.D. 1557. Appeared in America. Spread from Constantinople. Very fatal.
1580. Pandemic II. Spread to America.
1647. For the first time mentioned in the history of America. Swept the plantations in the South.
- 1732-33. Pandemic III. October 1732 appeared in Connecticut. Following day in Massachusetts; Annapolis two days later, attacked 50% of the garrison.
1761. Appeared in the spring. Northern parts of U. S. A. Philadelphia, Massachusetts and Weymouth.
1767. Appeared in the month of May.
- 1775-76. Epidemic in the U. S. A.
- 1781-82. Pandemic IV. Very severe, widespread, appeared in the spring. Began in the east, China, thence to India, Russia, western Europe. Named the "Russian Catarrh." Appeared in U. S. A. in April 1782.
- 1788-89. Prevailed extensively in U. S. A. From the 15th to the 45th degree of latitude, spread over this area in 6 to 8 weeks.
1807. Generally disseminated throughout the U. S. A.
1815. " " " "
1824. " " " "
1825. " " " "
1826. " " " "
1830. Pandemic VI. November 1831 reached America. Seat of the outbreak Manila, P. I., in September, 1830.
1843. Very prevalent in New England in the month of June.
- 1850-51. Epidemic in the U. S. A.
1873. Prevalent in the States of Pennsylvania, Ohio, Virginia, Illinois, Iowa, Michigan, Wisconsin, Minnesota, Missouri, Alabama, Louisiana, Texas.
- 1874-75. Reoccurred in all the above States.
1879. Epidemic in the U. S. A.
- 1889-90. Pandemic IX. Began in May, 1889, at Bukhara, Russian Turkestan. One of the worst pandemics ever known; ran over the whole globe in a few months.
- America infected from both Siberia and Europe. Appeared in New York end of October 1889.

- San Francisco infected from Japan December, 1889.
 1918-19. Pandemic X. Began in southwestern Spain in April, 1918. Spread to the U. S. A. in May, 1918, wide morbidity. Prevalent all over the States. Pneumonia very severe and fatal, especially in the training camps, where it swept off numbers of the flower of the American youth.
 To date, number of Epidemics in the U. S. A. 17
 To date, number of Pandemics in the U. S. A. 5

INFLUENZA EPIDEMICS IN EUROPE AND ASIA.

- B.C. 1103. Epidemic in Babylon, or Babirus of the Persians.
 722. Epidemic in Nineveh, during the reign of Sargon, King of Assyria.
 591. Diodorus mentions a pestilence as having occurred at this date; accompanied with headache, coma and death. (?Meningitis) A.M.
 412. The Roman Historian and writer Livy refers to a pestilence resembling the Flu in book iv. page 52.
 395. A pestilence claimed to be Flu destroyed by thousands the soldiers in the Greek army at the siege of Syracuse. (?Plague or Cholera) A.M.
- A.D. 827. A cough disease with fever spread rapidly and widely; known as Heafd or Heafod Flowan, also as Se Wulf. Epidemic in Britain.
 876. A disease attended with cough and fever, pain in the eyes, Italiae febris, Italian fever. Ravaged Germany and Italy.
 888. A disease with cough and fever spread through Germany.
 927. A disease with cough and fever Epidemic in France and Germany.
 996-7. A disease with cough and fever Epidemic in England.
 1173. First epidemic or claimed to be the first, prevailed in Italy, Germany and England.
 1323. The same countries invaded, spread to persons, towns and villages.
 1327. The same countries invaded, spread to persons, towns and villages.
 1387. Jacob von Königshofen states in the Strasburg chronicle, "A general pestilence invaded the whole country, attended with cough and fever; hardly one among ten were unaffected."
 1403-4. Epidemic over Europe.

1411. Epidemic: name given to the disease le Tac. Cause: contagion in the air, extensively; caused Abortions, during convalescence there was profuse hemorrhages from the mouth, nose and bowels. This account of the disease is given by Pasquier of Paris, 1665.
1414. Epidemic in France in February and March. Names given to the disease, Le Tac, le Horion and the Coqueluche. (Authority, Lobineau.)
1427. Epidemic. Widespread in France and the continent of Europe. Name given to the disease, Ladendo. Symptoms, cough, insomnia, renal pains, anorexia, rigors constantly. The greeting everywhere on meeting friends was "Have you had Ladendo?"
- *1510. PANDEMIC I. All over Europe. First accurate description given of its prevalence in the British Isles. Mild in type. Names given in France, Cephale Catarrhale and Coqueluche; in Britain Coccoluche. (Authority, T. Thompson.)
1557. Came from Constantinople. Very fatal. Spread to U. S. A. Ravaged Paris in July and August, Spain in August, England in September, Holland in October.
Distinctive symptoms, "tightness and dreadful oppression over the chest, as if bound with red hot chains; the same sensations over the abdomen and stomach." (Authorities, Thompson, Herman.)
1562. Mild Epidemic.
1563. Mild Epidemic.

1580

PANDEMIC II. Started on the north coast of Africa in Algiers and Morocco, in May, also in the Island of Malta.

Spread to the U. S. A. (Authority, Fonseca of Madrid.)

England ravaged August, September, October November.

Rome, 9,000 persons died.

Barcelona, Cadiz, Cordova, Seville, Madrid and other Spanish cities are said to have been depopulated.

The Spanish Physicians bled their patients, this venesection is said to have been very fatal; those who were not bled, most lived.

Thomas Short, London, 1587, states on page 9, "All had the Coccoluche; few died except those who were bled or had unsound Viscera."

Anna, wife of Philip I. of Spain, died of the disease.

Pope Gregory XIII. was given up for death, but recovered.

Epidemics in 1591, 1593, 1597, 1626.

1647

Noah Webster states, "For the first time Influenza is mentioned in the history of U. S. America, but it must not be concluded in the absence of earlier records, that the disease never occurred in the U. S. A."

Webster also cites from Hubbard, "the disease swept the Southern States and the plantations."

The West Indies were ravaged and had an extensive morbidity; on each of the Islands of Barbadoes and St. Kitts there were 5,000 to 6,000 cases.

1658

Epidemic in Europe, started the end of April. Thomas Wills, M.D. of Oxford, says, "the cause of the disease was a Blast from the Stars."

1675

Epidemic, ravaged Germany.

1688

Epidemic, began in May. Europe swept. Great mortality in Britain.

1693

Epidemic. Europe.

1709

Epidemic in Europe. France, Germany and Italy chiefly affected.

1712

Europe, epidemic began in Germany. Fever, cough, sense of dread and oppression, painful eyes and great backache. Rapid spread, great and prolonged exhaustion, morbidity great, nearly everyone attacked, mortality very light.

1729-30

Origin, Moscow, Russia, April, 1729. Morbidity enormous, lightning-like spread. In London great mortality, barely 1% escaped. In the month of September, 1729, over 1,000 persons died each week. Rome had some 60,000 cases. (Authority, Hahn.)

1732-3

PANDEMIC III. Raged over the entire earth. Spread to U. S. America October, 1732.

1742-3

La GRIPPE and INFLUENZA appear as names given to the disease for the first time. Epidemic, great morbidity, few deaths.

1758

The Flu prevailed as an epidemic in France, Scotland and the West Indies.

1761

Present in the U. S. A. in the spring.

1762

Epidemic in Europe.

1767

U. S. America, began in month of May.

1775-6

Spread from Europe to U. S. A. (Authority, Gluge.)

1780-1

January, 1780, started in France.

1781-2.

PANDEMIC IV. Very severe, widespread. Began in the autumn of 1781 on the borders of China and India, thence spread to Russia and U. S. A.

in 1782 appeared in western Europe; the name given in this Pandemic was RUSSIAN CATARRH.

The British fleet sailed from the Channel ports, Plymouth and Portsmouth, on May 6, 1782. No further contact was had with the land, yet on the 27th of May the Flu broke out on the fleet.

** (The presence of Flu carriers on the ships, or infected stores, clothes and other fomites and only opened after a week or two at sea; also the Flu being epidemic at the ports of departure, will amply account for this alleged miracle) (Author.)

1788-9

Widespread epidemic in the U. S. A. "Statement of Webster."

"Influenza is not spread by Infection: sailors on board ships 100 miles from land, and insulated as to infection were attacked."

** (Influenza is spread by infection, the explanation and defence is the same as just made above.) (Author.)

1799-1800

North Eastern Europe. Epidemic.

1802-3

PANDEMIC V.

1807

PANDEMIC VI.

1830

PANDEMIC VII. The seat of the outbreak was Manila, P.I., in September. It spread to the U. S. A.

1833

Epidemic in Northern Asia, Europe, North Africa. In St. Petersburg great morbidity, none escaped.

1836-7

PANDEMIC VIII. Starting point obscure, but in the Eastern Hemisphere. Morbidity and Mortality large. Pulmonary Influenza or Influenza-Pneumonia cases very common.

In London, for the week ending January 24, 1837, there died 1166 persons; and for the week ending January 31, the death rate reached a total of 1169; these deaths were solely due to Flu.

1847-8

PANDEMIC IX. Point of origin unknown; center of the focus of the disease the Eastern Hemisphere and Europe especially. More females than males were attacked.

Great mortality; of those affected with the disease, there died

83% of children, babies and infants.

104% of those 15 to 60 years.

247% of those over 60 years.

(Authority, Peacock.)

In Paris $\frac{1}{4}$ to $\frac{1}{2}$ of the population were attacked.

In Geneva $\frac{1}{3}$ of the population were attacked.

In London 250,000 were said to have been stricken.

U. S. America escaped the disease.

1850-1; 1857-8; 1873-4; 1875; 1879.

Influenza prevalent in both Hemispheres.

1889-90

PANDEMIC X. Started at Bukhara, in Russian Turkestan, large province situated to the east of the Caspian sea; March, 1889. Very vicious in its morbidity and spread, acted as never before; ran over the whole globe in a few months.

CONTAGIOUS: which hitherto in doubt, was clearly demonstrated by this Epidemic, which spread from Asia to Russia.

America was infected from both Siberia and Europe. Tropical and temperate countries, mountain and plain, were all swept over alike.

1918-9-1920

PANDEMIC XI. Origin in south eastern Spain, Barcelona a seaport; April, 1918, where a German submarine is said to have carried it; originally acquired by this boat at the Baltic port or ports of Danzig or Stettin.

Swept Europe and entered Asiatic Russia, later Japan. U. S. America was infected at its Pacific and Atlantic ports.

The conditions of trade and commerce during the World War were unusually favorable for the carrying of Influenza to the U. S. A.

America the great-souled, as always, acting most generously, putting herself on short rations in order to feed the starving millions of the world, and sending her ships with food and clothing to the Flu-infected ports, carried back the disease to her own people.

To date, number of Epidemics in Europe.....	47
" " Pandemics " 	11

NAMES FOR INFLUENZA.

Italian	Catarro Russo, and Influenta.
Portuguese	Cattarrho Epidemico.
Spanish	Catarro Epidemico.
German	Blitzkatarrh=Lightning-catarrh.
German	Influenz.

CHAPTER III.

INFLUENZA IN HAWAII.

Previous to the year 1889 Hawaii had been tolerably free from the "Flu." Such cases which had appeared in former years were of a mild character, as were also those which prevailed during the 1889-90 epidemic. Epidemic Catarrh has been known in the Hawaiian Islands for many years. The Annals of the early Missionary Fathers mention it.

Dr. Alonzo Chapin, an early Missionary physician, refers to it; on page 39 of the Author's "Monograph on Leprosy," is the following quotation taken from the Doctor's writings in the years 1836-37: (in Hawaii) "Diseases occur epidemically, as was the case with Catarrh, repeatedly."

This epidemic catarrh was probably Influenza in a mild form; or it may have been the epidemic catarrh of the kind known to the physicians of today, as that caused by the Micro-coccus Catarrhalis, a globular or spheroid shaped micro-organism.

South Wind Catarrh: In Hawaii during the season when the South wind prevails, from November to March, epidemic and infectious colds are very common. They are attended with disagreeable frontal headache, nasal discharge, sore throat, fever, aching limbs and body; these are cases of mild "Flu." Elderly people, middle aged and old foreign residents, and our Aboriginal population are those mostly affected.

Hawaii today, due to great increase of travel, greater speed of ocean steamers, and its cosmopolitan population, is probably infected, like all other ports of the U. S. A., with several different species or strains of the Influenza Bacillus, and also those of the Micro-coccus Catarrhalis.

Contagious Nature of Colds or Catarrhs, so Called.

It is a well known fact, that when isolated peoples are visited by strangers, whether they arrive by sea or land, epidemic colds speedily appear amongst the residents of these localities.

The Esquimaux, Indian tribes, residents of South Sea Islands, Caroline, Marshall and Marquesa groups, Pitcairn Island, etc.; isolated peoples and out of the track of travel, when visited by strangers, become affected with epidemic catarrh and cough, which may attack great numbers of them and cause high mortality. Those visitors who carry the germs of the Catarrh show no visible signs of disease themselves.

Possible sources of Disease: During the past four centuries there is clear evidence that Hawaii has been infected with diseases from certain sources; there is also evidence that is not so clear, yet it is worthy of consideration. From what countries could ships carry diseases to Hawaii before the opening up of

the Islands to foreign trade? Spain, China, Japan and Russia. Since the opening up of the islands to foreign commerce, the ships of all nations have carried to Hawaii a varied assortment of diseases, some nearly harmless, but others of the deadliest kind.

In the past centuries there are credible records of Spanish visitors, also of Chinese and Japanese, and of a people coming in Praus and Junks with "tufts of hair on their faces," Formosans, whose speech has an alliance with the Malayo-Polynesian and hence Hawaiian.

At the present time numerous ships which visit Honolulu carry infectious and contagious diseases amongst their crews and passengers, especially those who travel in the steerage.

What occurs today at known intervals on a very large scale, most probably happened on a smaller scale at extended and unknown intervals in past centuries; diseases were introduced to Hawaii, and carried from here.

Castaways and shipwrecked mariners can carry diseases to the shores they arrive at, the same as other voyagers, and probably did so to Hawaii.

If there was no Tuberculosis in Hawaii before the coming of the Foreigner, then where do the ancient Hawaiian words "hookii," "akepau" come from? Hookii means, in English, to grow thin in flesh, to waste away; akepau means to consume, to finish, hence to eat away.

Even today inspection of arrivals from oversea ports, and even limited quarantine carefully carried out by competent officials, is not always an effective protection against the introduction of infectious and contagious diseases into any country.

The following list of contagious and infectious diseases eluded the Quarantine officials at the port of Honolulu and infected the town, some later infected other Islands of the group.

Year.	Month.	Disease.
*1853	May 13.	Small-pox.
*1881	February 4.	Small-pox.
1895	August 22.	Cholera.
*1899	December.	Plague.
1911	February 23.	Cholera.
1911	October 27.	Yellow Fever (?).
*1918	June.	Influenza.

*Spread to the other Islands of the group.

THE EPIDEMIC OF 1889-90.

The 10th Pandemic which had its origin in the month of March, 1889, at Bukhara, Russian Turkestan, ultimately reached

Hawaii, both from Japan and San Francisco: from the former country in August of that year, and from the latter city in December.

Influenza became epidemic in the Islands in the year 1890, in the months of January, February, March and practically ceased to exist in the latter part of April. Its morbidity was extensive, its death rate almost nil.

Extract from the Report of the President of the Board of Health to the Legislature: session of 1890.

"Early in the autumn of the year 1889 a disease started in Russia, which on that account took the name of the Russian disease.

It spread rapidly over Europe and the British Isles; very soon it crossed the Atlantic, and with extreme rapidity spread over the whole continent of North America.

Early in January, 1890, Dr. Trousseau, the port physician, reported many cases existing among passengers, on the mail steamer en route to the Colonies.

In its journey westward from its initial starting point in Russia to the confines of California, its march has been marked by great prevalence and fatality.

In Hawaii with its mild and salubrious climate, its intensity is greatly modified, and although it caused great distress and physical suffering, very few deaths have resulted from it. This disease has prevailed as an epidemic on several former occasions under the name of Influenza. Other extracts from the same Report are as follows:

Agent Reynolds, "Influenza has visited most of the families in town since its arrival, but deaths have been few."

Dr. S. B. Swift, "At Kalaupapa, females at the Bishop Home were most affected."

Dr. Jared Smith, Kauai. "Extreme prevalence of Influenza of mild type, began the middle of January."

Dr. D. Campbell, Waimea, Kauai. "Influenza widespread."

Dr. Greenfield, Hamakua, Hawaii. "No Influenza epidemic. Catarrh and Bronchitis; wet and cold weather."

Dr. G. Herbert, Wailuku, Maui. "One-third of the population affected; at least 3,000 cases. One Pneumonia case fatal. Symptoms: Fever, frontal and occipital headache, spinal and limb pains. Pulmonary congestion and occasionally Pneumonia.

Estimated number of cases of Influenza:

Island of Oahu.....	6,500.....	Population	28,000
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" Maui.....	3,300.....	" "	19,000
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Deaths in Honolulu	
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February	3
--------------------	---

March	5
-----------------	---

Total	8
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EARLIER ARRIVAL OF INFLUENZA.

(Hawaii invaded from Japan.)

On or about the 20th of August, 1889, recently arrived Japanese laborers had Influenza in a mild form.

This shipment on arrival from Japan, at Honolulu, were transferred immediately from the ocean steamer to the deck of an Inter-Island one, and were landed direct at Onomea and Hakalau plantations.

The type of Influenza was very mild, never infected other laborers; those who had the disease were segregated for a week.

At Onomea there were nine cases, at Hakalau eleven. (Author.)

The epidemic of 1890 left a trail of its own, somewhat different from the way it had acted as an epidemic; for almost a decade cases of the nervous type frequently kept cropping out; these were attended with Insomnia, great prostration, severe neuritis and facial neuralgia; frequent attacks and relapses in the intervals, of this Nervous form of Influenza, were responsible for the decease of Honolulu's most prominent physician in the year of 1894.

The last, and fatal attack, the Doctor believed he acquired from visitors to Honolulu from Siberia, that country and European Russia being a continuous source of Endemic Influenza.

DENGUE.

Dengue in its initial stage or degree of progress in some respects resembles the Flu, and is often mistaken for it. Such was the case in the years 1900-1901 when imported laborers from Porto Rico, W. I. carried the Dengue or Breakbone fever with them.

This disease has practically disappeared, a sporadic case of it comes to light now and then. Its transmission by the Mosquito, *Culex fatigans*, is not yet definitely determined.

A new and more virulent type or species of the Influenza Bacillus was carried overseas to the port of Honolulu in the third week of June, 1918, and spread to the residents of the town; and it was this new imported type of Influenza that was responsible for the high mortality in the epidemics of that disease in 1918-19-20, due to Influenza and complicating Pneumonia, the so-called Pulmonary or Pneumonic form of the disease.

All these matters have been fully described in the public press, and in part in the Reports of the Board of Health, which q—v.

CHAPTER IV.

GENERAL CONSIDERATIONS.

Contents—Effect of Influenza on Man; Pulmonary-Influenza or Influenza-Pneumonia; Immunity; Incubation; Salient Points; Quarantine; Cause of "Flu"; Why Microbes Created; Flu Preventatives; Hours When Flu Attacks; Salient Points.

Effect of Influenza on Man. When the Influenza Bacillus or Microbe has gained access to the system of man, it speedily produces an acute infectious toxæmia or blood poisoning, due to the toxin or poison liberated in the blood by the Bacillus; there are also other disease producing micro-organisms found in the sputum or spit of the Influenza victim; these are spheroid or bead shaped and called Cocci (kokkos, a berry, Greek), which apparently aid the B Influenza as allies of destruction to our systems.

The effects of the "Flu" poisoning on the human lung somewhat resembles the conditions seen in those who have died from inhaling strong Chlorine gas, Carbon mon-oxide or Nitrogen gases in an atmosphere devoid of Oxygen.

The type or general character of the "Flu" which has prevailed in Hawaii during the past two years, especially in Honolulu in the months of January, February, March and April, 1920, is the highest development of destructiveness to man, that the B Influenza is capable of. It was the true Russian Catarrh or Malignant "Flu," and so called by the Italians Catarro Russo and not Inflente or Influenza. This type of the "Flu" was re-introduced into the U. S. A. in the spring of 1918.

INFLUENZA-PNEUMONIA.

Pulmonary Influenza or Influenza-Pneumonia frequently complicates the "Flu" in some epidemics, but not in all of them; it is the main cause for the mortality due to that disease.

A century and a half ago the French physicians first demonstrated its peculiarities, and its difference from ordinary Pneumonia, which is as follows:

- (a) It develops gradually and complicates the Bronchitis of Influenza.
- (b) Its peculiar physical signs are: the respiratory murmur in the early stages of the "Flu" is diminished, and later completely disappears; then bronchial breathing begins without dullness or crepitant rales, like true Pneumonia.

In Hawaii as elsewhere, the complicating Pneumonia seldom appears before the second or third day; occasionally it comes to

the fore after the fifth or sixth; it is not always easy of detection in a mild case. In our epidemic in Honolulu last winter, 1920, some of cases considered as Pneumonia were in fact those of simple Pulmonary congestion and oedema, attended with expectoration of frothy blood-tinged mucus, resembling the swollen or drowned lung found in those who have been submerged and died from drowning.

The true Influenza-Pneumonia sputum or spit is "greenish-yellow," this greenish color being due to the presence in the sputum of a green pigment excreted by the diplo-coccus or double coccus, like a necklace of beads, or sometimes resembling rounded small rods.

LEGACIES OF THE "FLU" TO MAN.

A tendency to T. B., softening of the heart muscle, nervous prostration, insomnia, restlessness and inability for brain work, depression of spirits and irritability of temper, neuralgias, middle ear disease, eye troubles, vertigo or giddiness from the ear disease or eye or heart; stomach disease after intestinal influenza, vomiting spells, etc., etc., emaciation, diarrhoea.

The open air life of the occupants of T. B. hospitals accounts for their freedom from epidemic "Flu"; but they are not immune to every epidemic. Residents of asylums, hospitals, and jails are not so fortunate, numbers of the inmates being attacked; daily rations of quinine should be given.

IMMUNITY THE KING PROTECTOR.

Paradoxical as the statement may appear, the mild and balmy climate of the Hawaiian Islands, or any other place, neither protects nor prevents any person from being attacked by the Influenza.

A mild climate is not a factor of prevention against any infectious or contagious disease: the dominant agent and king of protectors is an IMMUNITY inherited or acquired.

Climate cannot alter, change or prevent any person from being infected with Small-pox, Plague, Cholera, Scarlet Fever, Typhus or Influenza.

In the presence of King "Flu" all men are not equal, those who have had several attacks of the disease in former years, or have recently had it, are fairly Immune, not absolutely so; but others who have not recently had Flu are liable to become infected with it, and may be stricken at any time.

Good living, careful personal hygiene, fresh air in abundance, avoidance of over heated and poorly ventilated rooms, together with a general high standard of living, are excellent in their

way to prevent ordinary disease; but in so far as they can prevent any one from being infected by the Flu, the absolute protection is entirely lacking in them; none of these very essential hygienic principles can produce IMMUNITY, which is the SOLE protector from an attack, or more than one attack of Influenza, and it is Nature's standby, and by means of which it braces up the system to convalescence and ultimate recovery.

Successful Vaccination against Small-pox will prevent or render mild an attack of that disease, in 95% of those who have been vaccinated and re-vaccinated. A baby in arms if successfully vaccinated is Immune and protected; whereas an unvaccinated giant living in a balmy climate, should he contract Small-pox, will probably be a candidate for a coffin or the furnace of a Crematory.

A mild climate cannot alter nor render less harmful to the system of man, the specific toxin or poison of Influenza once it is liberated into his blood; nor the toxin of any other micro-organism of the infectious type.

In the combat with disease, many of the advantages of our Hawaiian climate are to a certain extent neutralised by a lack of stamina and disease resistance (and also the neglecting to call in the services of a physician at an early stage of the illness) of some of our inhabitants.

Any person who is affected with symptoms of disease, such as fever, headache, nasal discharge, cough, sore and tickling throat, and lassitude, during the prevalence of Flu, epidemic or sporadic, should take to bed, and by so doing, it may mean and is in line with a quick recovery, and a mild case of that disease: whereas fighting off the disease and struggling to pursue one's daily avocation may change a mild type of illness to a very grave and hopeless one. In this respect Influenza resembles Typhoid fever of the ambulatory type, the victim does not realize how sick he is, but when the hour comes that exhausted body and brain forces him to seek his bed, it is often too late, and death or prolonged sickness awaits him. Frequently the athlete and the physically strong, when stricken with Flu, refrain from early rest, struggle against the inroads of the disease, exhaust their recuperative powers, and when finally driven to bed, collapse and die: whereas a weaker individual being speedily overcome, gives up and takes early to bed and recovers.

The death rate amongst those who are attacked by the "Flu" varies in each epidemic and pandemic; as a fair average, approximately most recover, say 75%; incomplete recovery 15%; and in the late epidemic in Honolulu, the winter of 1920, the death rate was 8% to 10%; in the U. S. A. it was 4% to 6%; and in Europe $4\frac{1}{2}\%$.

INCUBATION.

Great discrepancies occur in the statements of different observers, but inasmuch as each epidemic varies in severity, a severe type of the "Flu" may have a shorter incubative period than a mild type, and therefore taking the variations in type into consideration, may reconcile the differences. If Influenza was accompanied with a facial eruption or exanthem, this would materially assist in the determination of its Incubative period. In Hawaii, two to three days is the most frequent period of Incubation; it may vary, however, from 24 hours to 72 hours, even to five days; in these long incubative cases, headache, aching eyeballs, and great languor are the indicating signs, and those persons so affected succumb slowly and offer great resistance to the overpowering toxins of the *Bacillus Influenzae*.

The Immunity which a person may possess in one Epidemic and not in another, may be accounted for by assuming that each Epidemic may have a difference in the strain or the species of the *Influenza bacillus*.

SALIENT POINTS.

Period of Life. Most cases occur between 20 and 40 years.

In Schools. The older children are first attacked: open air schools are a positive, but not an absolute defense against Infection.

Indoor Schools. The ratio of prevalence amongst children of all ages is 40%.

Outdoor Schools. All ages, the ratio of prevalence is 10%.

Open Air Occupations. Such as workers in the fields, 12% are attacked.

Closed Rooms. Factory Operatives, 49% are attacked.

MAIN FACTOR OF SPREAD. Not the Weather, but HUMAN intercourse, especially Commerce; the greater the speed of Commerce, the greater and quicker is the spread of the Flu; it follows the path of HUMAN travel; it is a Contagion solely spread by HUMAN intercourse, viz. "The Influenza Carrier or Carriers."

Positions in life, which require contact with Travelers, necessarily influence and spread the disease.

"Flu" is spread in the same ratio of speed as the Carrier of IT.

When the Flu is a weakling, his best Nurses and Foster-Mothers are Overcrowding and lack of Pure Air.

Where the Crowd is, there the Flu is: little crowding means little Flu; plenty of Crowding, plenty of Flu.

QUARANTINE AND ISOLATION.

Period of Isolation, for ordinary Flu patients: 12 days.

Period of Isolation, for Influenza-Pneumonia cases, until the end of Convalescence.

Quarantine and Isolation are beset with difficulties owing to the extraordinary contagious nature of the Flu, due to the multiplicity of Contacts, Carriers, and mild undetected cases.

It should be borne in mind that Influenza is a most refractory disease, and not at any time or season is it under our control, and to bring about this condition is as yet an unsolved problem.

It may attack us at any time, although its favorite period of appearance is the Autumn and Winter months.

Influenza is mainly a Respiratory disease, hence Isolation and Quarantine cannot be relied upon to prevent the spread of the Flu, and both of these restraints of personal liberty and hindrances of commerce must fail, besides being also unpractical and impossible.

People must meet to transact business in public places, must eat and drink in public, use telephones in public places, use public lavatories, and many other acts of public nature; all of these acts cannot be quarantined, nor can talking amongst crowds; even if rigid quarantine rules were enforced, the Flu has hitherto eluded them and spread outside of the quarantined limits.

CAUSE OF THE FLU.

In the absence of any alleged cause or theory, which can account for the erratic prevalence of the Flu, the Author advances the following:

(a) The Bacillus of Influenza normally cannot exist or thrive in our every-day ordinary atmosphere, constituted of 20% of Oxygen, and 80% of Nitrogen.

(b) Under certain atmospheric conditions, such as any fractional excess above 4.5 Nitrogen, the normal amount present in the air, the Bacillus of Flu can become acclimated and acquires new sources of vitality, viz., the means to exist in the presence of Oxygen, and to thrive and multiply in it, and propagate, in this temporarily changed atmosphere. It speedily becomes imbued with virulent disease producing properties, multiplies on a vast scale, and proceeds to attack and scourge man; hence an Epidemic of Flu is brought into our lives.

(c) Later when the normal atmospheric balance is restored, the Bacillus ceases to be pathogenic or disease producing, loses its power, Facultative or Potential, to multiply and live on a large scale, but certain of the most vigorous members of the Colony survive and remain dormant, and latent, and years or months later

under the same favorable atmospheric conditions, Nitrogen excess in the atmosphere, become active and produce a New Epidemic of Flu.

Each Epidemic may be considered as a sprouting of the "seed" of the previous or past ones; such seed or microbe is not permanently nursed by any host, such as man or animal, as a carrier; but the Bacillus lies hidden in the dust of rooms, attics, books, packed away clothes, towels, non-sterilized fomites in general, especially blankets and handkerchiefs, wall paper, etc.; on premises which had been occupied by Flu victims or victim, or convalescents from the disease, weeks, months, or years before.

No disease producing microbe can develop itself anew, it must come from the seed of the old stock, whether it be Flu, Typhoid, Plague, T. B., or Small-pox. Like produces, and only can produce like, is an infallible law, and applies to every living microbe, malignant or harmless.

Anything with life, when the entire species is eradicated or destroyed, with no live members or parents surviving, is absolutely gone for ever, save and except the Supreme deity sees fit to regenerate it.

In Honolulu, how uncomfortable we all feel when the South wind prevails, with its excess humid atmosphere; Headaches, Sweats, Sneezing, Lassitude and loss of appetite, etc., affects many of us, and coughs and sore throats; this is the Sick wind or atmosphere, so called by the Hawaiian; a condition of mild Flu producing weather; akin to Nitrogen plus air, and Oxygen minus, which the Author has suggested as an explanation of the cause of dormant Influenza, developing into an Epidemic.

WHY WERE MICROBES CREATED?

We have an abundance of non-disease producing microbes dwelling in our bodies, and also many other harmless micro-organisms pervade the lower strata of our atmosphere; the upper strata of the air are devoid of microbes, say five miles from the surface of the earth, but inasmuch as human beings cannot breathe in comfort at such a high elevation, we cannot escape germs of disease by residing at great heights.

The harmless microbes inhabiting our bodies are good friends and protectors; disease producing microbes may have been created for the purpose of maintaining a bacterial balance, not too much of one kind nor too little of the other.

If Providence intended to decimate mankind and destroy him by microbic diseases, one species of a deadly and virulent microbe would suffice.

Micro-organisms, in order to live and exist, must find suitable surroundings and pabulum; if these are lacking, they must

perish. Man and animals, in the main, furnish the homes and food which enables a microbe to exist; and when death destroys the "host," the parasitic microbe still lives in the body of its victim when buried in the ground; hence the necessity for cremation, which is the ideal and most efficient method of disposing of the corpses of those who have died of infectious diseases.

SPORES HAVE GREAT VITALITY.

The Creator, by introducing microbic life to our globe, must have intended it to live and propagate; bacteria are provided with a wonderful defense against eradication; this is evident in the protection designed for the Spore or Re-productive element of Bacteria, whose coat or outer cell envelope is one of "the most resisting substances to destruction in the Organic world."

Agents, that cause other forms of life to succumb, fail to destroy it; the average spore when subjected to a dry heat temperature of 300° Fahr. for one hour is apparently still alive; it requires this same temperature to be maintained for several hours in order to destroy it.

It is an unalterable law of life, that every living species grows old and ultimately perishes; even one day's existence to a microbe may combine birth, infancy, maturity and old age.

It is impossible to believe or to think, that our Creator is always creating new or fresh supplies of Flu microbes or any kind of the disease producing ones; whether microbes survived the Deluge, or were post Pluvial creations is a moot point? if Noah took microbes into the Ark and preserved them by Divine order, for future liberation amongst mankind, he certainly did his work efficiently in so far as the species of the Influenza bacillus is concerned; it has lost none of its virulency or vigorousness in the year 1920, after living 6,000 years.

PREVENTIVES OF INFLUENZA?

Are there any Influenza preventives? Serums, of late years have been the chief agents used for preventing and treating the Flu.

As a preventive remedy, the immunity (?) or protection afforded is very brief, and it ceases to be of value in a few weeks.

In Hawaii, the Author has not been greatly impressed with the value of Serums in the treatment of Influenza; the alleged great benefits and cures set forth in Medical papers, and publications of laboratory statistics by manufacturers of the Serums are not obtained here.

Serums after injection are supposed to aggravate all the symptoms of Flu, followed later by a great improvement in the

patient's condition, but this prophecy is not always borne out; hence the increase of the headache, fever and pains in the limbs and aching bones, alarms and frightens the patient of the Asiatic, Hawaiian races and many of the Caucasians.

Amongst cases of Influenza, lying side by side, those treated by simple remedies recovered just as speedily and safely as those who had undergone the Serum treatment, and were attended with much less discomfort.

QUININE. The bi-sulphate of Quinine is one of the best haemal or blood microbicides that we have, and its daily use in times of epidemics of Influenza may prevent the user of it from being attacked. It is more a Preventive in some of the epidemics than in others, the ratio of prevention is 40—60, sometimes more, sometimes less; the remedy is easily taken, and in small doses has no drawbacks; it is best so administered; it is cheap and in the coated tablet form palatable, convenient; any person can take it and pursue his usual avocation.

After forty years of practice as a physician, the Author feels convinced of the value of Quinine; he learned its value in western Europe, even if the headache of Flu is very severe small trial doses may be given, as the Author knows from personal experience it is helpful; in a later stage of the disease, with excessive sweats, cold clammy skin and aching bones, all due to cadaveric bacilli circulating in the blood, give Quinine, and your patient or patients will soon respond to its beneficial effects, their condition will improve, and they will thank you and ask for the medicine.

Should small doses upset the stomach, in very susceptible persons, then it may be given by hypodermic injection, using the more soluble salts of QUININE, the Lactate a white powder soluble in 1 to 5 of water, or the Acid Hydrochloride of the *B P; in the U S P** it is the Di-chloride, which is soluble in less than its own weight of water; if small doses of Quinine cause headache and ringing in the ears in a well person than the remedy is unsuitable and should not be taken, for it will not prevent an attack of the Flu in that person.

Professor Dittmar Finkler, M.D., of the university of Bonn, Rhenish Prussia, in his work on Influenza, cites the experiments carried out by Dr. Graser, Medical Army Corps, on duty at the cavalry barracks at Bonn, where five squadrons of German cavalry were quartered during an Epidemic of Flu; one of the squadrons, complement of men, was given daily rations of Quinine for several weeks during the prevalence of the epidemic, the other four squadrons received no Quinine; the results are here set forth:

* British Pharmacopeia.

** U. S. A. Pharmacopeia.

Squadron	Complement	"Flu" Cases	Quinine
First	135	22	None
Second	135	4	0.5 gm. daily
Third	135	19	None
Fourth	135	42	None
Fifth	135	32	None

It is reasonable to assume, that the food or pabulum of the bacillus of Influenza is poisoned by Quinine entering the blood, hence the microbe will avoid by instinct any person whose blood contains quinine in solution; if the bacillus has gained access to the system it is speedily destroyed, and becomes cadaveric as soon as it enters the zone of the quinine barrage.

Are there Hours of the day when the System is more susceptible to Invasion by the Bacillus Influenzae?

To determine this question requires careful study, time, a great deal of patient and tedious work and perseverance; yet it is possible to gain some information on this phase of the "Flu."

At intervals, during the past twenty-one years, from more than 1000 cases of Influenza in adults, the Author has managed to collect 132 cases; wherein, it was possible to check and verify with some degree of accuracy, the time of contact with a known source of Flu; no subsequent contact being had with any other known source of that disease.

Material evidence was collected from isolated plantation camps, sparsely inhabited villages, and the suburbs of Honolulu at such times as there was no epidemic of Flu. A record of cases collected mostly in the autumn and winter months, from October to March, is hereunder set forth:

Hours of Contact	Cases	Incubation	Pneumonia
5 a.m. to 8 a.m.	30	2 to 3 days.	None.
8 a.m. to 6 p.m.	22	2 to 3 days.	None.
6 p.m. to 10 p.m.	80	1 to 5 days.	9

CROWDS in attendance at Social gatherings, Public meetings, Restaurants, Places of amusement; together with lack of pure Air in overheated and unventilated rooms and halls, plus lowered vitality after the day's work, easily and clearly account for the great excess of cases in the above table, between the hours from 6 to 10 p.m.

Influenza has neither cosmic nor heliacal connections.

SALIENT POINTS.

Care of the Flu patient. Ventilation of the sick room should be carried out with due regard to the wishes of the patient. What is a cooling agreeable breeze to the average Caucasian, may be

felt as an Arctic blast by the Hawaiians and Asiatic races; this causes them to fret and worry.

There is a happy medium in ventilation of sick rooms, as in all things. If the patient has Pneumonia, encourage resting on the right or left side, changing from time to time; discourage any patient from lying on the back.

The Health of the Nurse. The Nurse must protect her own health, by regular hours for work, rest, sleep, meals and exercise; an overworked nurse is a non-efficient nurse, and it sends her along the road to a breakdown and makes her or him more subject to acquiring Flu from the patients.

Practise nose breathing. Use sign language in the sick room; keep the mouth closed; tightly closed lips are a better safeguard than a Flu mask; mouth breathing is an inviter of infection; anoint the lips and nostrils frequently with camphor vaseline, or Spirits of Camphor; use no sprays for the nose or throat containing alleged germ destroyers; gargle the throat with a little Listerine water; by so doing you do not kill your protective friends, the non-pathogenic Bacteria; these will get the best of Mr. Flu in due time; leave the nose alone; germ killing sprays, so-called, are useless and are a delusion; remember the "Flu" bacillus is enclosed in a spray-proof coat, almost as tough as Shark skin.

(From the Author's Booklet, "Historical Hawaii.")

ADMIRAL ADAM. IVAN. KRUSENSTERN. (1770-1846.)

Adam. Ivan. Krusenstern, Russian navigator, explorer and scientist. Served and trained with the British navy from 1793 to 1799. In the year 1802, the Russian Government purchased two ships from the British Admiralty, whose names were changed to the "NEVA" and the (?) Don.

After being refitted and provisioned, these ships left Kronstadt in August, 1803, under the command of Captain Krusenstern, on a voyage of exploration around Cape Horn; they called at the Mendaña or Marquesa Islands, remained there four months, making investigation of the resources of this group; later the ships sailed for Hawaii, arriving on June 13, 1804; here also an intensive study was made of the people, products of the islands, harbors, fisheries, climate, etc.

The ships returned to Kronstadt in 1806, and Captain Krusenstern was advanced to the rank of Admiral; he is the Author of "A Voyage Round the World," in 3 volumes, 1810 and 1814, in the Russian language; he also was the Cartographer of an "Atlas of the Pacific Ocean."

On page 199, of the Author's Monograph "Leprosy in Hawaii," will be found the following statement:

1804, June 13. The Russian ship "NEVA" arrives; did this ship infect the Islands with CHOLERA?

1804, ? -? A severe and deadly Epidemic disease ravages the Islands, named by the Hawaiian people, the "Ma'i make Okuu," or the "Ahulau Okuu."

THE AHULAU OKUU.

The word Ahulau means a deadly epidemic or pestilence; the word Okuu has two meanings which will be explained later.

A description of the symptoms of the victims of the Ahulau Okuu, as related to the Author in the year 1883, is herewith set forth in the *words* of the narrators, grandchildren of some of those who had been stricken with the Ahulau Okuu, but had recovered.

"Owing to the terrible pains in their stomachs, and the cramps in the legs, those who had the New disease could neither stand nor lie down: (hence the meaning of the word Okuu, a verb, to sit up because one has no place to lie down in comfort).

To obtain some relief from the pains, the sick people sat on their hams or heels, with the body bowed forward clasping their stomachs, or sat on the ground, their legs in front and the body bowed in front over the legs. Thin stuff like sour starch water

flowed from them very often; some vomited all the time; their faces and bodies became black and cold as like they had died, their eyes grew small and far in the head. They all the time cried for water, for they had a great thirst. People died so fast and so many, nobody was left to bury them.

The sick and the well ones who looked after them, lived on baked sweet potatoes; the people were too tired and weary to make the poi.

It often so happened, those who were not sick when they began to cook the food for the sick ones, were taken with the Ahulau Okuu, and died so quickly, falling over dead on the face, before the potatoes had cooked." (All the above described conditions are typical of Cholera of the Asiatic type, the most malignant form.) Author.

The Ahulau Okuu ravaged all the Islands, and it is said to have caused 22,000 deaths. Kamehameha I, then living on the Island of Oahu, was stricken with the disease, but recovered.

(A) The Hawaiian word Okuu, a verb, means, to dismiss or let go the Soul; It is applied to and accepted as describing the last moments of those stricken with the pestilence of 1804: "they dismissed freely their souls and died." This explanation of the meaning of Okuu is too vague. It gives no clue to the early stages of the disease or its symptoms. The only conclusion that can be safely drawn is that the Okuu was a rapidly fatal and epidemic malady.

(B) The Author of this Booklet sought for, and found years ago another Hawaiian word Okuu, which throws some light on the progress of the Ahulau Okuu previous to death, and it also gives some insight as to what the pestilence could be or was; furthermore to any physician of an intuitive mind, the translation into English of the word Okuu, "to dismiss freely and let go the Soul in death" explains nothing.

There are two words Okuu in the Hawaiian language, spelt alike and also pronounced alike, but entirely different in their meanings; both are verbs. Lorrin Andrews in his Hawaiian dictionary, a standard work, A.D. 1865. (q. v.), states the meaning of the second Okuu is "to have to sit up because one has no place to lie down in comfort"; this aptly describes the misery of a cholera victim; he or she cannot stand up, sit up, nor lie down in comfort, because of the intense and continuous pains in the belly, and cramps in the legs. Which of these two construing of the word Okuu gives the better and clearer explanation of what the Ahulau Okuu really was, is left to the judgment of the Reader.

A POLYNESIAN COLONY LIVES IN PELE LIILII A. D. 1920.

The Mentawe or Menekeawe Islands lie 70 miles off the West coast of the Island of Sumatra, and the people of these islands are the last and only Colony of Polynesians living in the Malay Archipelago; all the other Polynesians have immigrated and passed onward to the Pacific Ocean.

Menekeawe is a Polynesian word, hence used every day in Hawaii; mene, means an axe or koi; keawe, means a bearer or carrier, also Keawe is the name of a man; hence we have the hale or house of Keawe, the temple of refuge at Honaunau, S. Kona, Hawaii.

The Menekeawe Islands are 21 in number, 4 large and 17 small; all are of volcanic formation; they lie offshore at the base of the great mountain Indrapura, 12,500 feet, now a quiescent volcano, and the alleged abode (pura) of Indra, the FIRE GOD of the Indo-Aryan peoples, a King God of the Middle Realm, the fire of the Air, the lightning.

The four largest of this group of Islands are, Siberut, Sipora or Sikatan, North and South Paggi; they are surrounded by coral reefs and volcanic shoals, difficult of access due to a huge surf. The area of all the islands is 1224 square miles, about one-fifth the size of Hawaii nei; their Lat. 1° South to 3° 30'; Long. 100° E.

The people of the Menekeawe Islands in features, language and customs have a distinct and remarkable affinity with the Polynesians; they are almost a pure blooded race of ARYAN stock, and they are the only survivors of an eastward emigration of an Indo-Aryan people, who antedate the Malay peoples in Sumatra, the Battas and others. The Menekeawes have not fused nor mixed their blood with other Malay peoples; miscegenation, if any, has been very rare.

PELE'S HAIR is formed by whirlpools of scum floating on the surface of the rapidly moving magma of boiling lava, and blown by the wind over the rim of the lava basin. During heavy rain, Pele ceases to spin her amber colored threads of glass. In January, 1888, the Author collected the hair; analysis showed the composition to be Silicate of Calcium 75%; Silicate of Calcium Oxide 15%; Ferrous Carbonate, FeCO_3 , 7%; Ferrous Sulphate, FeSO_4 , 3%; the "hair" is therefore a fused transparent amorphous Silicate of Calcium; the amber color is due to the iron, Fe salts.

HALA: The Hala mountains are 40 miles west of the Indus river and form the boundary between S. E. Persia and India.

The town of Hala in Persia is the modern Bela; an Indian town Hala is located on the bank of the Indus 25 miles north of Hyderabad (the abode by the water). The Maikai mountains are found S. of the Nerbudda river, Lat. $22^{\circ} 30' N$; Long. $78^{\circ} E$. In Hawaii, hala, a pineapple, a tree; as a verb, hala, to pass beyond, as death; also Pahala, Halawa.

The Hawaiian people speak of living in PELE: The great volcanic islands around the Java Sea are this land. The great island of Sumatra, 1100 miles long by 250 wide, 66 volcanic centers, probably is the Hawaii Loa of the Hawaiians.

Island of Java: Yawa, Hawa, Chawa, Mul Java of Ibn Batuta, Jawa, Jawi, Jawah.

Savii Loa is great Java, Sawaii or Savaii is Javaii; Savaiiki is Javaiiki or little Java.

The Arabs were the great ancient navigators and explorers; they acquired their maritime skill and seamanship in the Mediterranean, Red and Arabian seas and in the Persian gulf.

The Phoenicians acquired their marine training around the islands in the Gulf of Persia.

The ancestors of the Hawaiians could have learned their marine skill, and probably did so, on the shores of the Arabian Sea and off the estuary of the river Indus, also in the Bay of Bengal and off the mouths of the River Ganges, and later, in the seas of Indonesia.

The Polynesians are pre-eminently a race of excellent seamen, due to centuries of a sea-faring life. The early members of that nation, upon their entry into the Pacific Ocean, perhaps in dhows and praus, but later as canoe-men, were skillful, fearless and as successful a race of navigators and explorers as the world has ever produced; poorly fitted out for ocean travel in frail craft; nevertheless the Polynesians pursued boldly a course into an unknown, vast ocean, where possible storms, thirst, starvation, shipwreck and death awaited them.

Some probable points of departure of the primal Polynesian emigrants, seeking new homes in the various islands of the Pacific, can be found at Sawaii and Kawaahae on the north coast of the island of Ceram (?Ceylon), one of the Molucca islands; thence they could pass due north up the Gilolo channel and enter the Pacific, leaving Pulo Morotai (Island of Molokai) to the northwest, then steering a course along the north of New Guinea and the Solomon Islands due east towards Samoa.

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To escape the Mongoloid hordes, who were crushing and crowding them out in Indonesia, the Polynesians in their

travels appear always from necessity and safety to have chosen the path of least resistance, the ocean; with its currents and winds, aided by sails and paddle power, it is a motor of comparative ease and progress, and also of sustenance, providing abundance of fish, limu (edible seaweed), etc.

The early Polynesians, armed with their knowledge of trade winds, ocean currents, the stars, and with their skill as fishermen, reduced to a minimum the prospects of ocean disasters or pilikias. On the ocean's broad expanse no enemy could ambuscade them, nor were perils of this kind liable to be encountered. Under all the above conditions of ocean traveling the Polynesian navigators were enabled to explore and discover new and many hitherto unknown islands in the largest ocean of our globe, the Pacific.

* * * *

The Polynesian speech or language is distinctly not of Malay or Mongoloid origin; research indicates that Indonesia was its home and that it must have been in use for centuries before the Malay came into the field. Due to the invasion of this race, some of their words became engrafted on to the Polynesian, they did not and have not materially changed it, hence, without any sufficient reason, the name Malayo-Polynesian is in common use to designate a language which is 85 per cent Polynesian.

The Polynesians are absolutely a separate and distinct race from the Malays. The pure Polynesian type, such as most of aboriginal Hawaiians, has the following characteristics: Tall, skin brown or olive, brown eyes, abundant black wavy hair, ARYAN features, cleanly, cheerful, artistic, intellectual, gentle, polite and dignified, poetical, musical.

Their long type of skull and its capacity resembles in part the European. Every one of the above properties is lacking in the Malay, but the ancient Hindu and the Persian possessed every one of them; it is to these races that the primal Polynesians can be traced and hence their identification in the Pacific presents no problem that cannot be solved.

William Marsden (1754-1836), "History of Sumatra," states: "All the Insular nations of the Pacific are colonies from Indonesia or Malaysia, whose original home was the great Island of SUMATRA, and their common speech the Great Polynesian."

The Land of our Aryan Ancestors.

About 1400 B. C.—"The summer months are two, and the winter months are ten, and these are cold; and when the winter encompasses (us) with the worst of its annoyances it is

cold for the trees and the flowers, cold for the cattle, horses and birds, and cold for the freezing waters filled with the falling snow."

Quoted from the sacred record of the Persians, kept by the "Magi," the priests of the Persians—the Wise Men of the East; of the same class as those who carried to Mary, the mother of Christ, gold, frankincense and myrrh (aromatic germicides to protect the infant Christ from mumps, measles and tonsilitis, etc., and also to purify the air of the living quarters).

The location of a land with only two summer months must have been far to the north of the Caspian Sea, on the banks of the River Rha or the Volga. Petrograd, in 60 degrees N. Lat., has an average annual temperature of 38 degrees Fahr.

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Farthest East in Polynesia.

Rapanui, or Easter Island: Seen by Captain Alvaro Mendaña, June 24, 1595; visited by the Dutch Admiral, Jacob Roggeveen, and his crew on Easter Sunday, 1722, hence the name of the island, Easter.

Inhabitants are today Polynesians who came from the Marquesa Islands, some 1800 miles to the northwest of Rapanui. A translation of one of their tablets bearing a hieroglyphic inscription relates as follows:

"In that happy land, that beautiful land, where Romaha lived before with his beloved Hangora; that beautiful land that was governed by the Gods from heaven; who lived in the water when it was cold; where the Black and White pointed Spider would have climbed to heaven, but was stopped by the falling snow and the freezing cold."

This very unique narrative probably harks back to northwest India; Ramachandra, the seventh incarnation of Vishnu, the Polynesian Tangaroa, and the black and white spider is the winter solstice, similar to the Hawaiian astronomy, Ke alanui polohiwa a ke Kuukuu (the black luminous orbit of the Spider).

POLYNESIAN VITAL STATISTICS.

Islands	Population	Years	Decrease
Tahiti Group	*175,000	1774	
	34,800	1910	140,200
Samoa Group	*185,000	1768	
	46,000	1912	139,000
New Zealand	*120,000	1840	
	49,776	1916	70,224
Hawaii Nei	*230,800	1780	
	200,000	1804	
	26,000	1910	204,800
Marquesa, or Mendaña Group	*45,000	1804	
	35,000	1842	
	4,000	1910	41,000
Tonga Group	*30,000	1880	
	17,500	1912	12,500
Cook Group	*11,500	1880	
	8,400	1900	3,100
Wallis Group	*8,000	1860	
	3,600	1912	4,400
Austral Group			
Tabuai	*1,800	1875	
	1,000	1912	800
MELANESIA			
Fijii Group	*194,000	1840	
	125,000	1906	69,000
TOTAL .	*1,001,100		685,024

Sources of Information for the Above Figures.

Consular Reports of various Nations.

Encyclopaedia Britannica, American Edition, 1911.

Century Dictionary and Encyclopaedia, American, 1912.

Admiral Adam Ivan Krusenstern, (1770-1846).

Admiral Bougainville, (1729-1811).

Statistics collected by the Author.

Units and tens are discarded in the above table of figures, 1st Census.

Estimating population of Aboriginal races select the lowest totals.

Estimating the Death Rate of Aboriginal races select the highest totals.

POLYNESIA: (Greek, polus, many; nesos, island).

MELANESIA: (Greek, melas, melanos, black; nesos, island).

MICRONESIA: (Greek, mikros, small; nesos, island).

